

REMARKS

Reconsideration and allowance are respectfully requested in light of the above amendments and the following remarks.

Claims 1-12 have been cancelled in favor of new claims 13-18, to better define the subject matter Applicants regard as their invention. Claims 14-17 recite features of original claims 3, 6, 7, and 8 respectively. Support for the features recited in independent claims 13 and 18 is provided in the original claims, Fig. 5, and the specification on page 10, line 14, through page 12, line 12.

Claims 1-3, 6, 7, and 9-12 were rejected, under 35 USC §102(e), as anticipated by Smith et al. (US 6,006,075). Claims 4 and 5 were rejected, under 35 USC §103(a), as unpatentable over Smith in view of Kamerman et al. (US 5,164,942). Claim 8 was rejected, under 35 USC §103(a), as unpatentable over Smith in view of Kamerman and further in view of Fujita (US 6,128,476). To the extent these rejections may be deemed applicable to new claims 13-18, Applicants respectfully traverse.

Independent claims 13 and 18 recite a plurality of antennas that transmit a plurality of transmission data according to a switching pattern. The switching pattern defines a plurality of relationships between the antennas and the transmission data, and a period of repeating the switching pattern is coordinated with

an interleaving length in the transmission data. In short, a novel feature of claims 13 and 18 is the coordination of the period of repeating the switching pattern with the time interleave length in the transmission data. Specifically, claims 13 and 18 recite making a switching pattern repeating period equal to a time interleaving length in the transmission data.

The above-noted feature of the present invention provides an advantage of making it possible not only to randomize error by virtue of the multiple antenna transmissions but also by virtue of the interleaving effect, thereby providing uniform data error rates. Even when the receiving side has only one antenna, this feature makes possible improved error correction performance and an excellent diversity effect.

By contrast to the above-noted features of claims 13 and 18, Smith discloses switching pattern relationships, between antennas and transmission data, that are determined by reference to a history of antenna use (see Smith column 12, lines 58-67). As a result, Smith's switching patterns have no regularity, as may be determined by examination of Smith's Fig. 8.

Smith does not disclose or suggest using a switching pattern in repetition. Moreover, Smith does not disclose or suggest making a switching pattern repeating period equal to a time

interleaving length in the transmission data, as recited in claims 13 and 18.

Regarding Kamerman, the Office Action proposes that Kamerman teaches a counter that counts a predetermined time such that a switching pattern repeating period is equal to a time interleaving length (Office Action page 5, fifth paragraph).

However, Kamerman fails to provide such a teaching. Instead, Kamerman discloses in Fig. 7 that when a station has received a data frame, a slot sync control circuit 240 is reset 112 CLK cycles after the detection of an end delimiter ED of the received frame (Kamerman col. 10, lines 41-45). With this arrangement, the slot sync control circuits 240 of all stations 12 in a LAN 10 are reset at precisely the same instant, as indicated by the dashed line 400 in Fig. 7 (col. 10, lines 45-51).

Kamerman does not disclose or suggest anything regarding switching patterns or interleaving, much less the technique of making a repeating period of a switching pattern equal to a time interleaving length in transmission data, as recited in claims 13 and 18. Instead, Kamerman merely discloses a counter that resets upon the detection of an end delimiter portion of frame, which bears no relationship to the time interleaving length of the present invention.

Fujita is cited in the Office Action only for providing a teaching of: (1) a plurality of synthesizers associated with each of a plurality of antennas and (2) switching a conversion frequency of a synthesizer while another synthesizer is frequency converting transmission data (Office Action page 6, fourth paragraph). Even assuming the Office Action is correct with respect to Fujita's teachings, Fujita still does not cure the deficiencies of Smith and Kamerman with regard to making a switching pattern repeating period equal to a time interleaving length in transmission data.

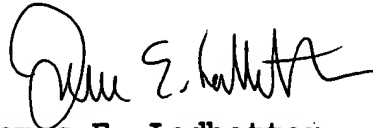
In accordance with the above discussion, Applicants submit that the applied references, either alone or in combination, fail to disclose all of the features recited in independent claims 13 and 18. Specifically, the references fail to suggest making a switching pattern repeating period equal to a time interleaving length in transmission data. Therefore, allowance of claims 13 and 18 and all claims dependent therefrom is warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone

the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,



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